

# PROGRAMMING CLASSES

WCCF 77

At Computer Power & Light we have two main goals. One is to provide the end user with a powerful, reliable, yet low cost computer system. Our second goal is to provide the end user with the knowledge necessary to really make the computer perform. To achieve this second goal we invite you to attend one of our series of classes in computer programming, professionally taught, at our store's classroom. Absolutely no computer experience is necessary to enroll in one of our classes.

Our BASIC language programming class will teach you how to program using BASIC, the most popular of all the higher level programming languages. The universal appeal of BASIC lies in the fact that it is both easy to learn and yet extremely powerful. Many of our students have found that after as few as ten hours of instruction they are already using BASIC to fulfill their computer applications.

The 8080 ASSEMBLER class is for those interested in programming in the "machine language" of the 8080 microprocessor. The content is applicable to any 8080 based device.

Both courses consist of 24 hours of instruction, divided into eight three-hour seminar sessions. All texts and instructional materials are included. In addition to the seminar meetings you will be provided with the opportunity to get plenty of 'hand on' experience with any of the five computers always up and running in our store, guided by the weekly suggested assignment sheets.

Consult a current class schedule for class times and prices.

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**BASIC Class Syllabus:** Introduction to computers and programming; INPUT, LET, PRINT; arithmetic operations/hierarchy; system commands; types of variables; GOTO; READ & DATA; immediate mode; flowcharting and program planning; IF-THEN-ELSE; Boolean operators; using flags and counters; reading & writing from tape; SQR, ABS, SIN, COS, TAN; FOR-NEXT and use of loops; INT, RND, TAB, and all string functions; formatted print commands; arrays; sort routines; subroutines, GOSUB/RETURN; writing application programs

**8080 ASSEMBLER Class Syllabus:** What a microcomputer does; binary and hexadecimal representation; adding and subtracting in binary; 2's complement arithmetic; Boolean operators; structure of the 8080; concept of an assembler; use of labels; source program editing; MOV, MVI, LXI, and ADD; using loops, DCR, INR, JMP, JNZ, JZ, JP; more math, ADC, SUB, SBB, JC; how the 8080 stack operates; CMP, CPI; PUSH and POP; CALLs and RETs; use of pseudo-operations in an assembler; ASCII representation; software control of I/O; IN, OUT; formatting video displays; handling interrupts, EI, DI; 16 bit arithmetic, DAD; programming/documentation techniques; writing some standard routines.